

AMENDMENT UNDER 37 C.F.R. § 1.111  
U.S. Appl. No. 10/066,638

**AMENDMENTS TO THE DRAWINGS**

A replacement sheet for Fig. 3B is submitted herewith. Fig. 3B is amended to show oxygen in the first measurement chamber as introduced from the detection gas, which is pumped out by the first oxygen ion pumping cell. The N<sub>2</sub> bar is reduced correspondingly. The amendment to the drawing conforms to the description at page 19, lines 9-12 and at page 26, lines 6-12 of the specification. No new matter is added.

Attachment: Annotated Marked-Up Drawing: Fig. 3B  
Replacement Sheets: Figs. 1-36, including the corrections to Fig. 3B.

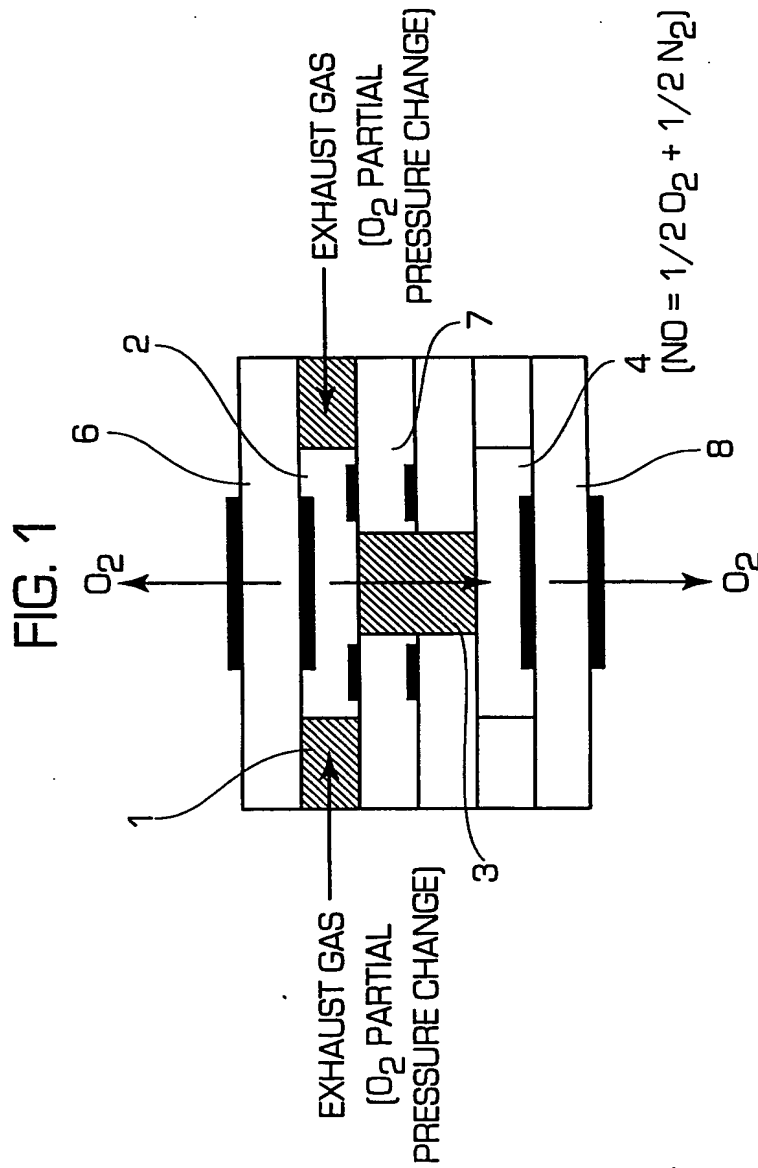




FIG. 2

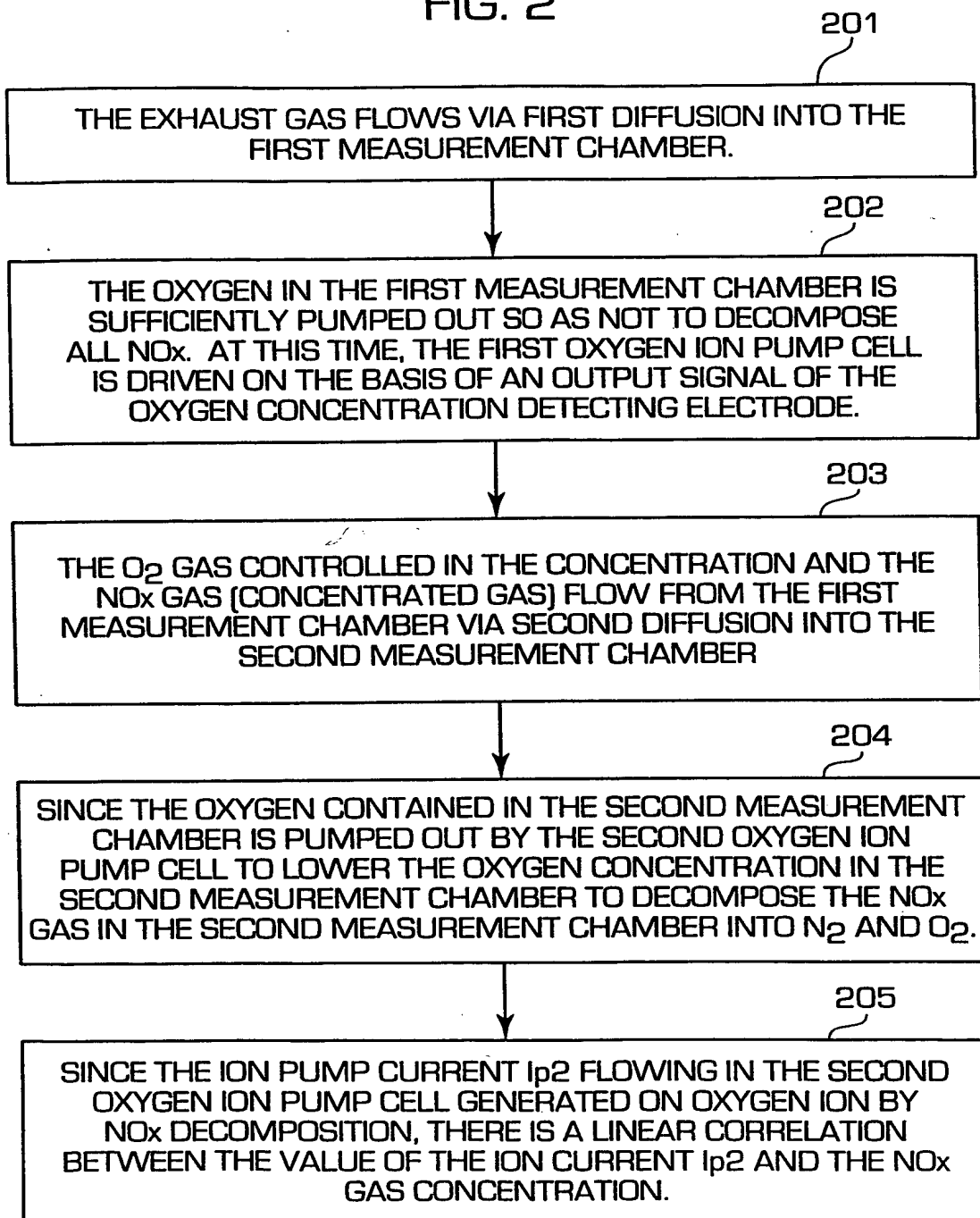
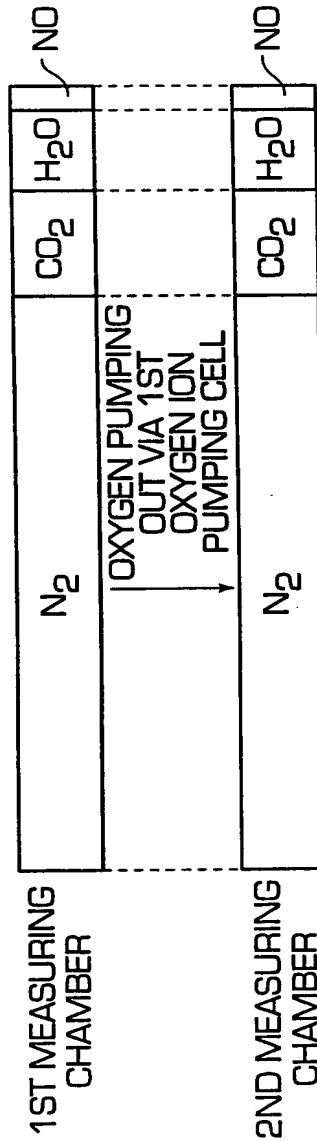




FIG. 3A

IN CASE WHERE OXYGEN CONCENTRATION  
IN MEASUREMENT GAS IS 0%

GAS CONCENTRATION PROPORTION



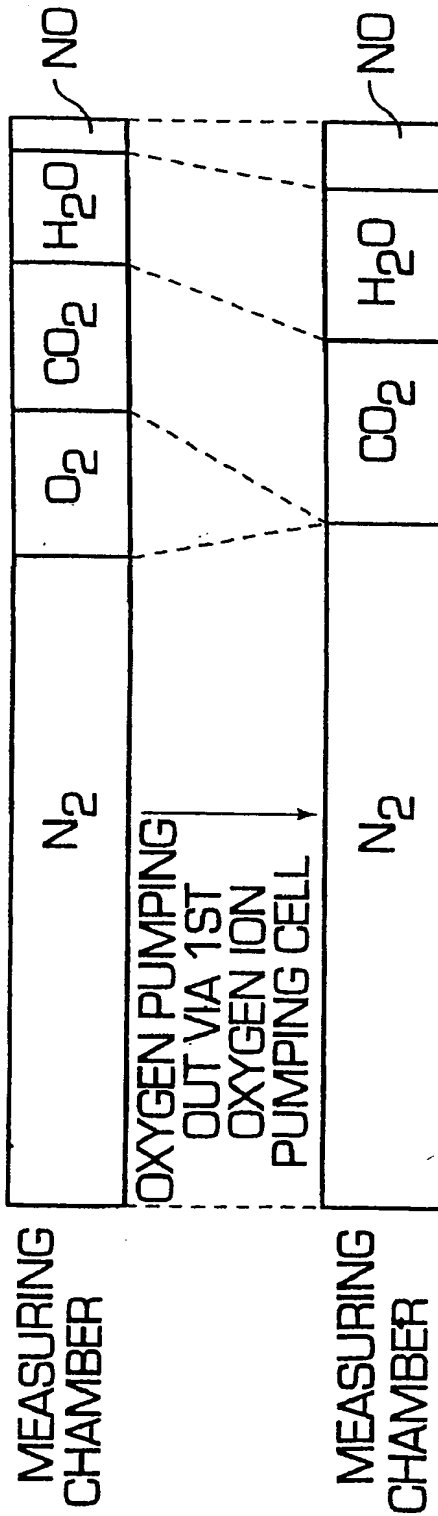
THERE IS NO CHANGE OF GAS CONCENTRATION  
WHERE PROPORTION IN 2ND MEASURING CHAMBER



FIG. 3B

IN CASE WHERE OXYGEN CONCENTRATION  
 IN MEASUREMENT GAS IS 0% AND ABOVE

GAS CONCENTRATION PROPORTION



IN 2ND MEASURING CHAMBER GAS CONCENTRATION  
 PROPORTION OF O<sub>2</sub> DECREASE AMOUNT CHANGES  
 WHILE PROPORTION OF OTHER GAS ELEMENT INCREASE



FIG. 4

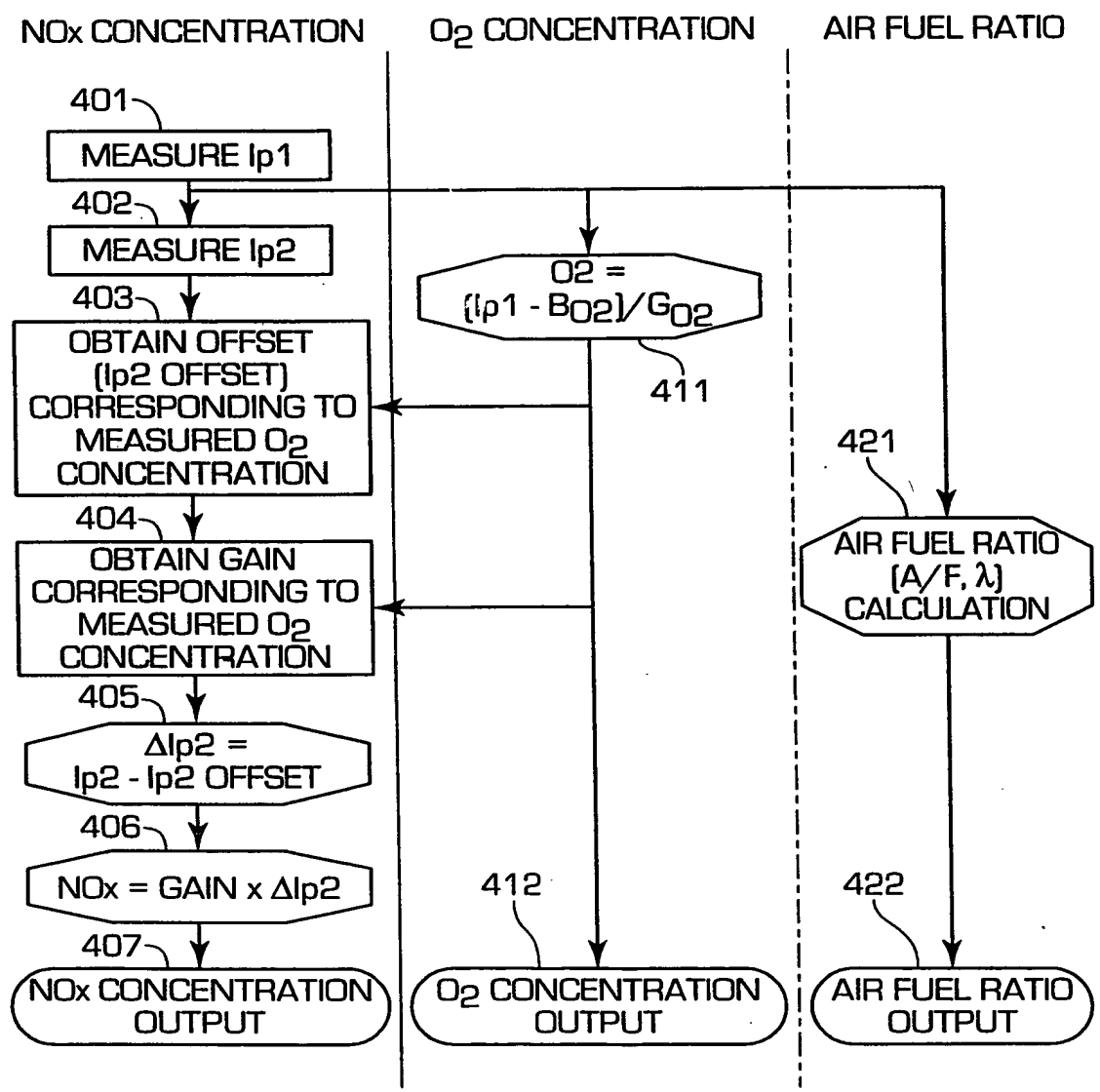




FIG. 5

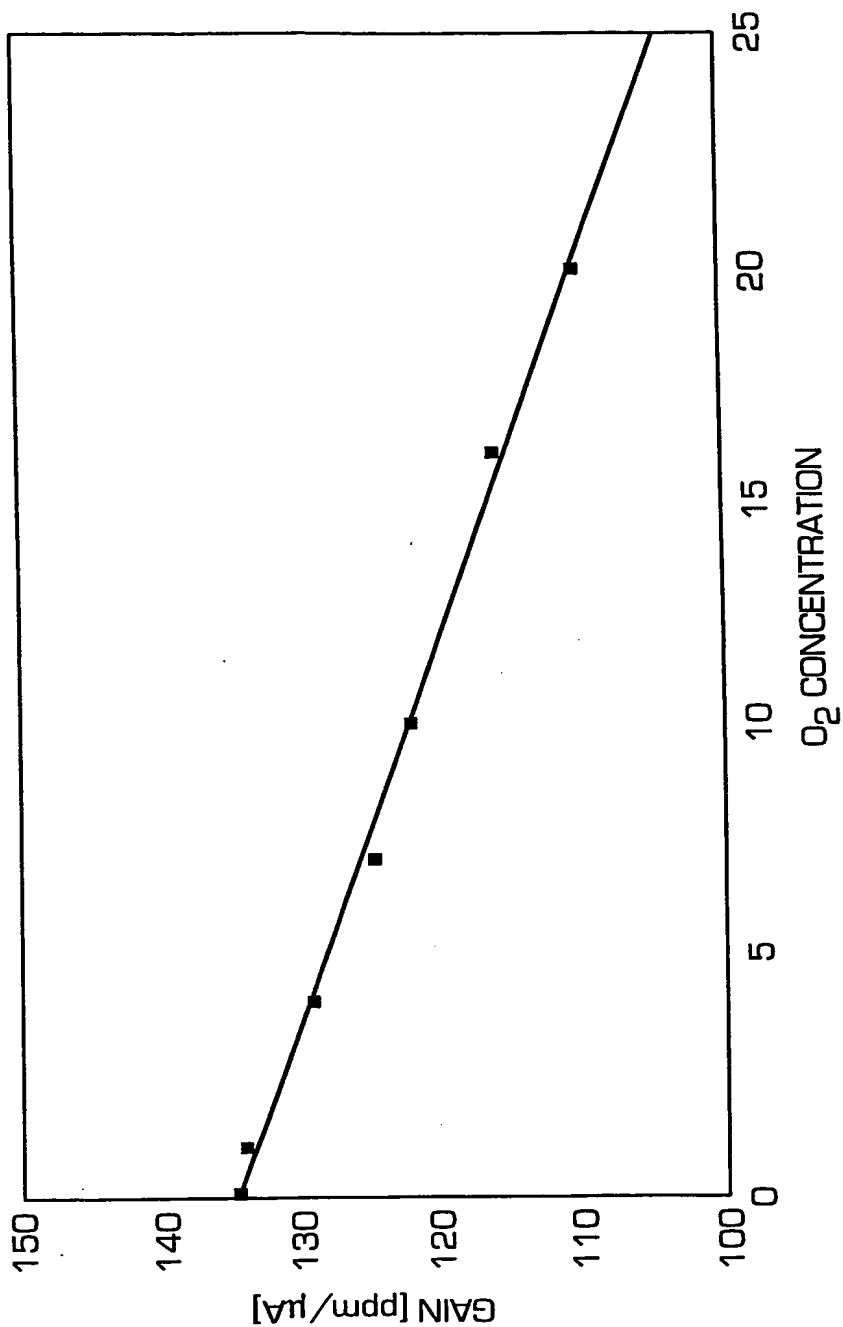




FIG. 6

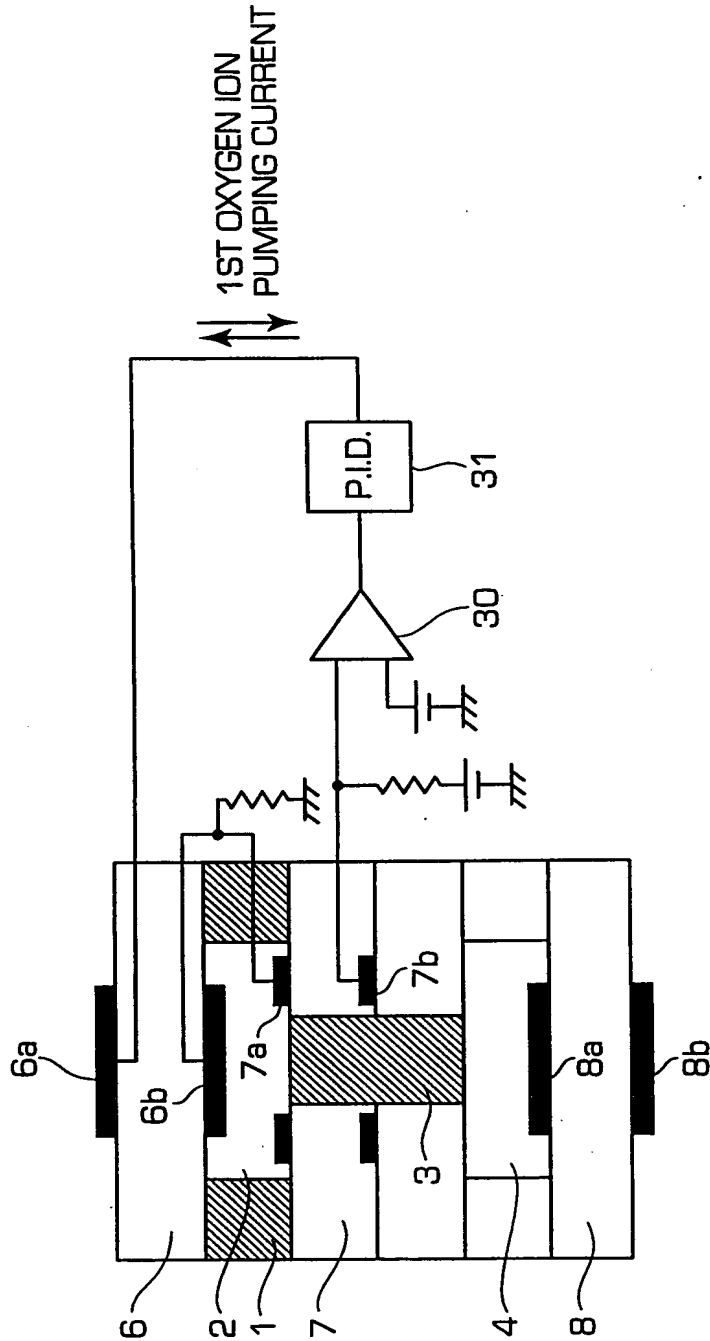






FIG. 7

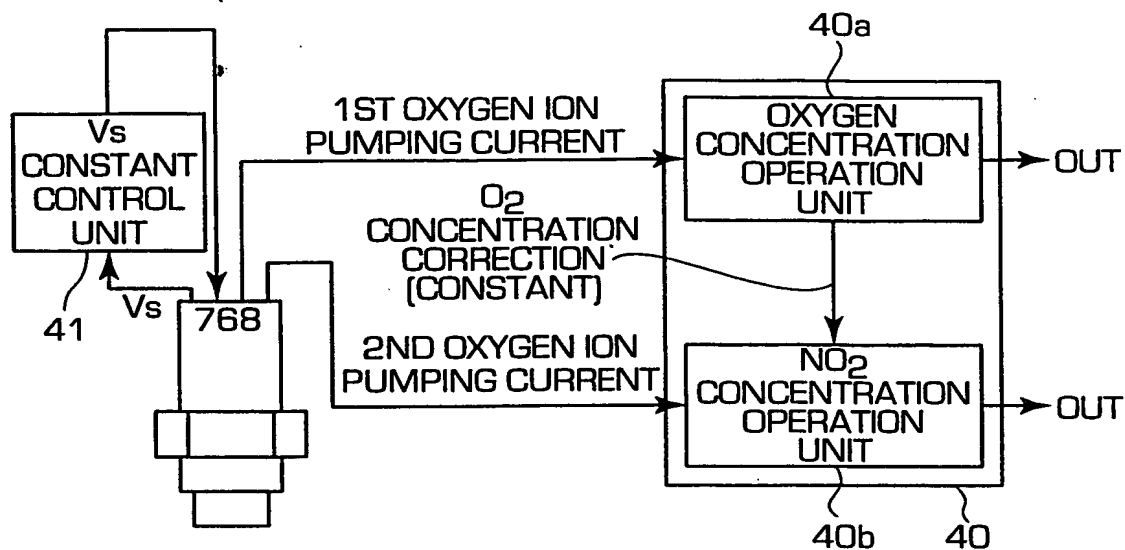


FIG. 8

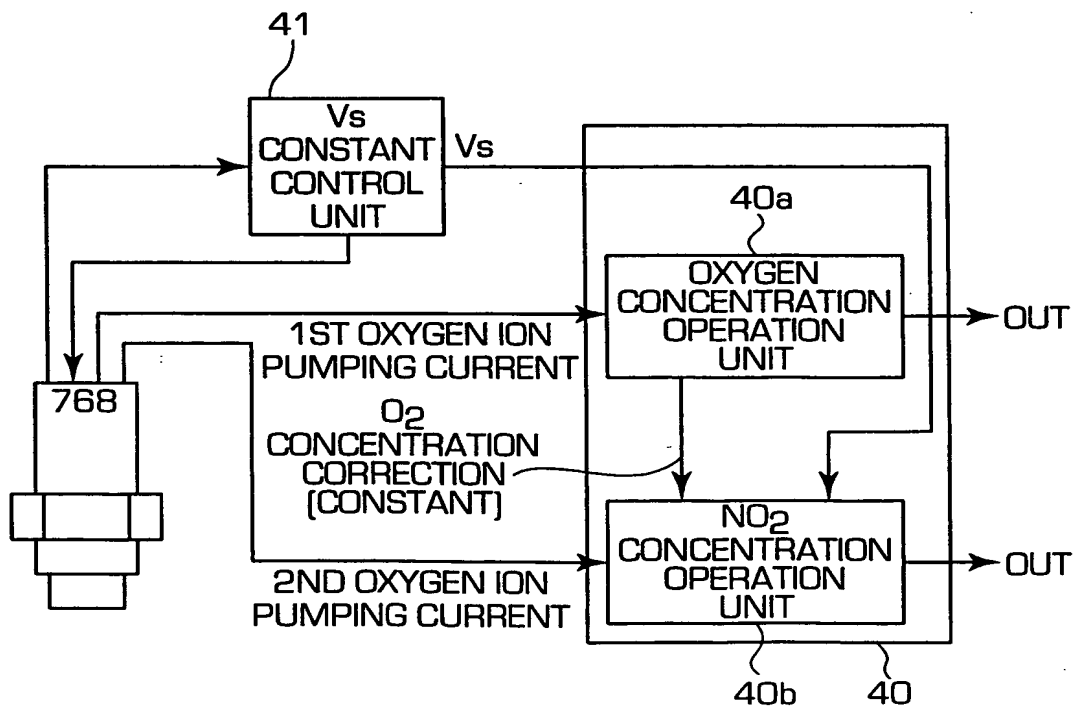




FIG. 9

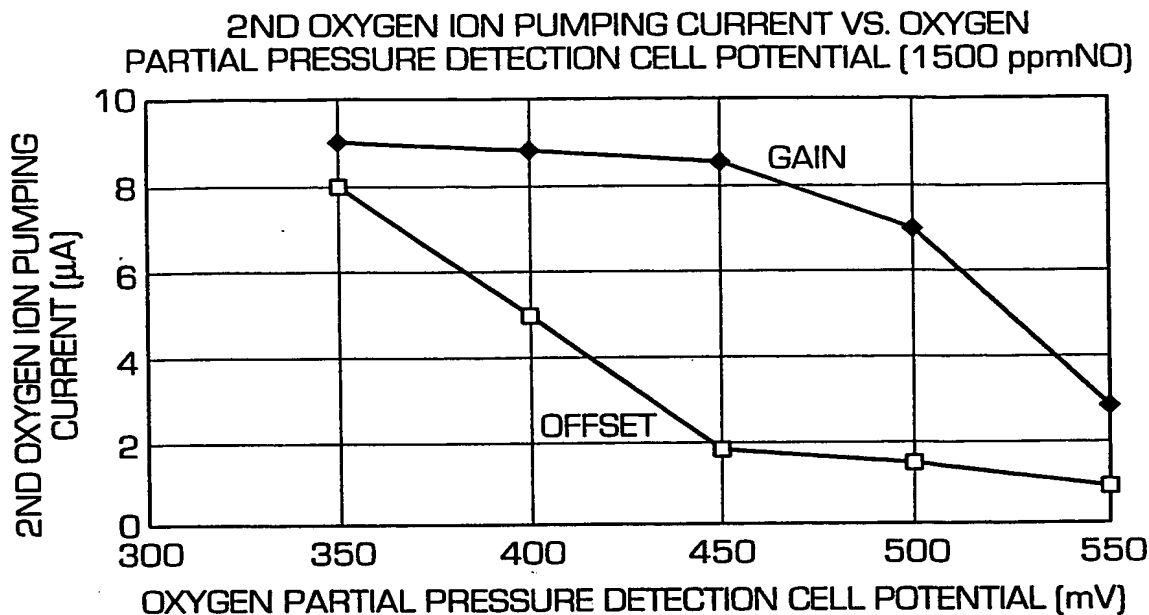


FIG. 10

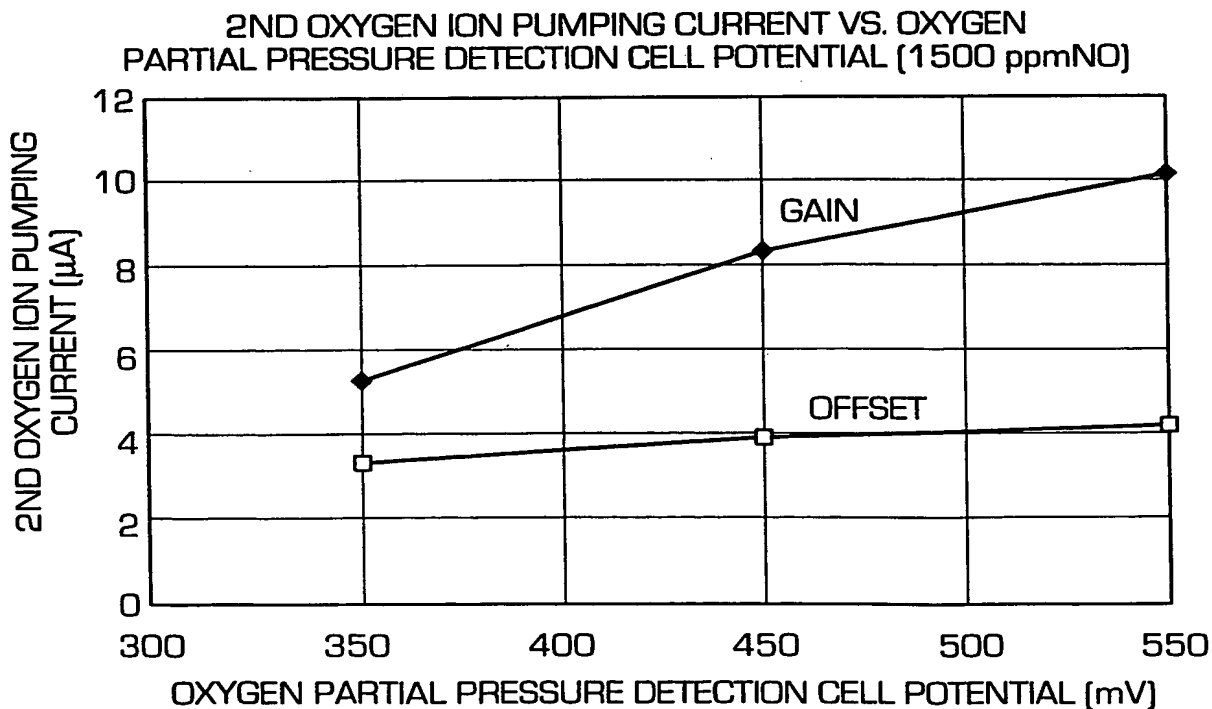
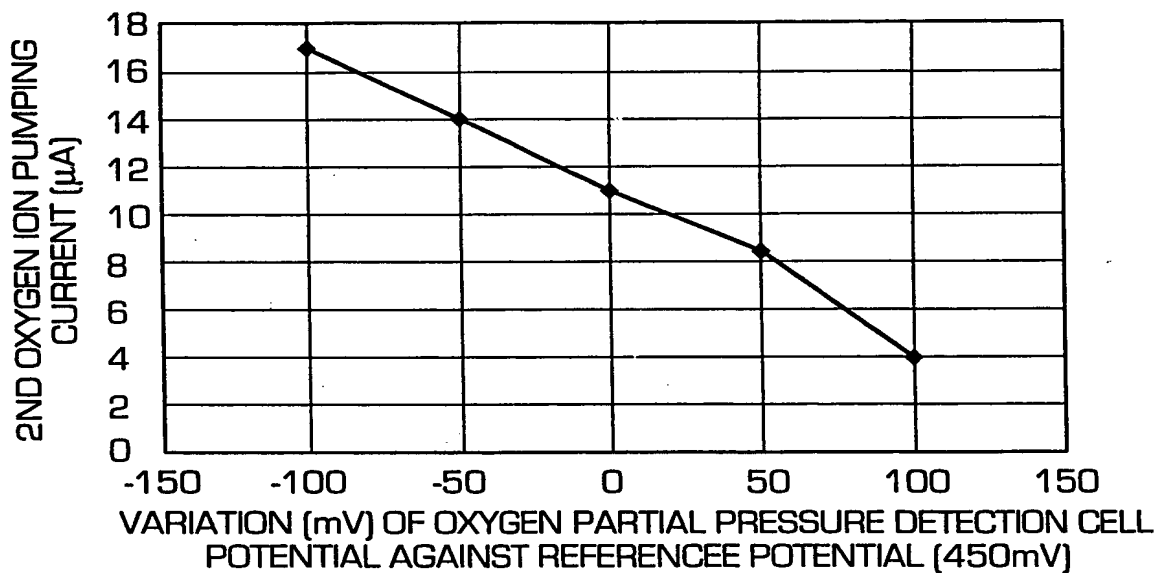




FIG. 11

2ND OXYGEN ION PUMPING CURRENT VS. OXYGEN  
PARTIAL PRESSURE DETECTION CELL POTENTIAL (1500 ppmNO)



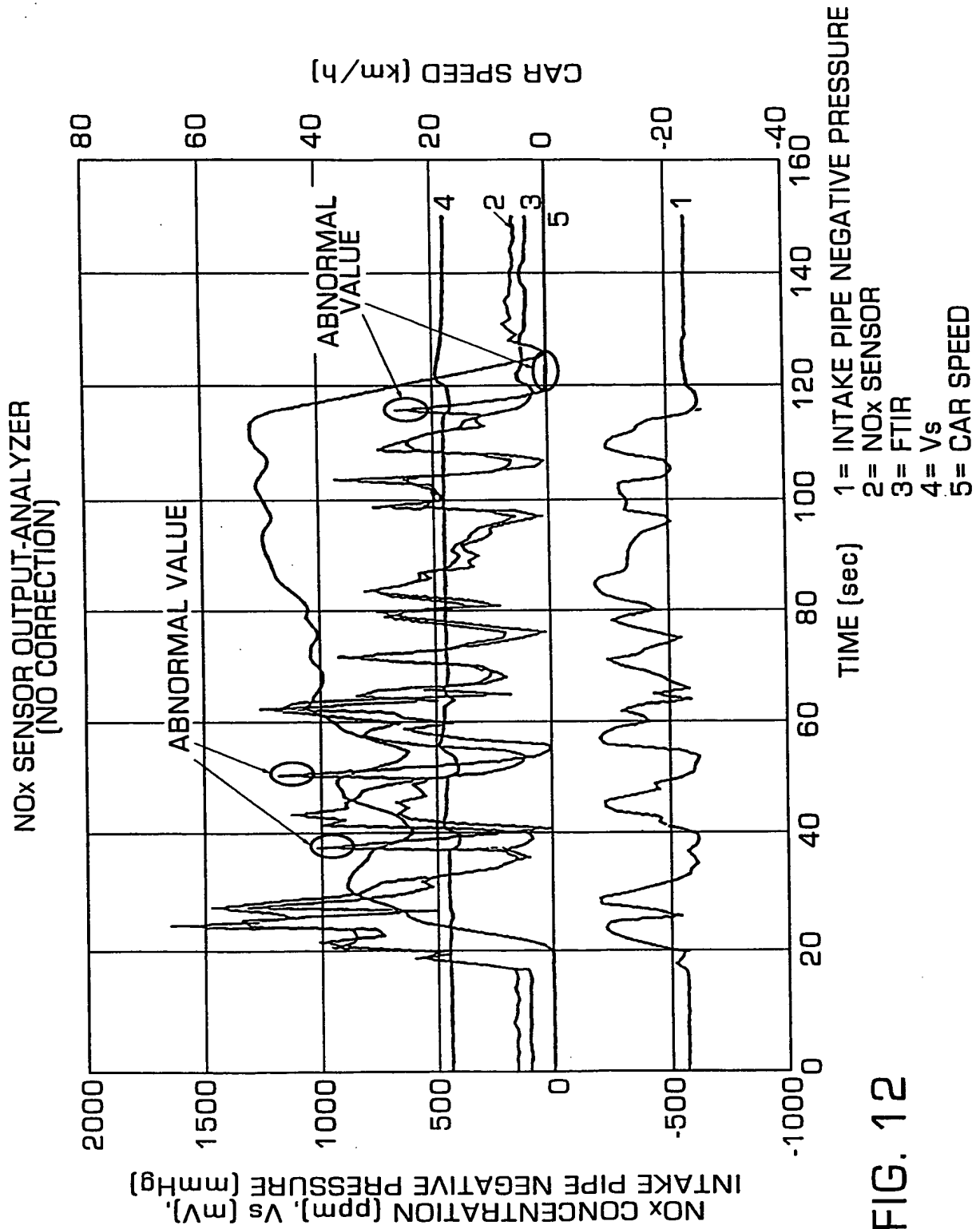


FIG. 12

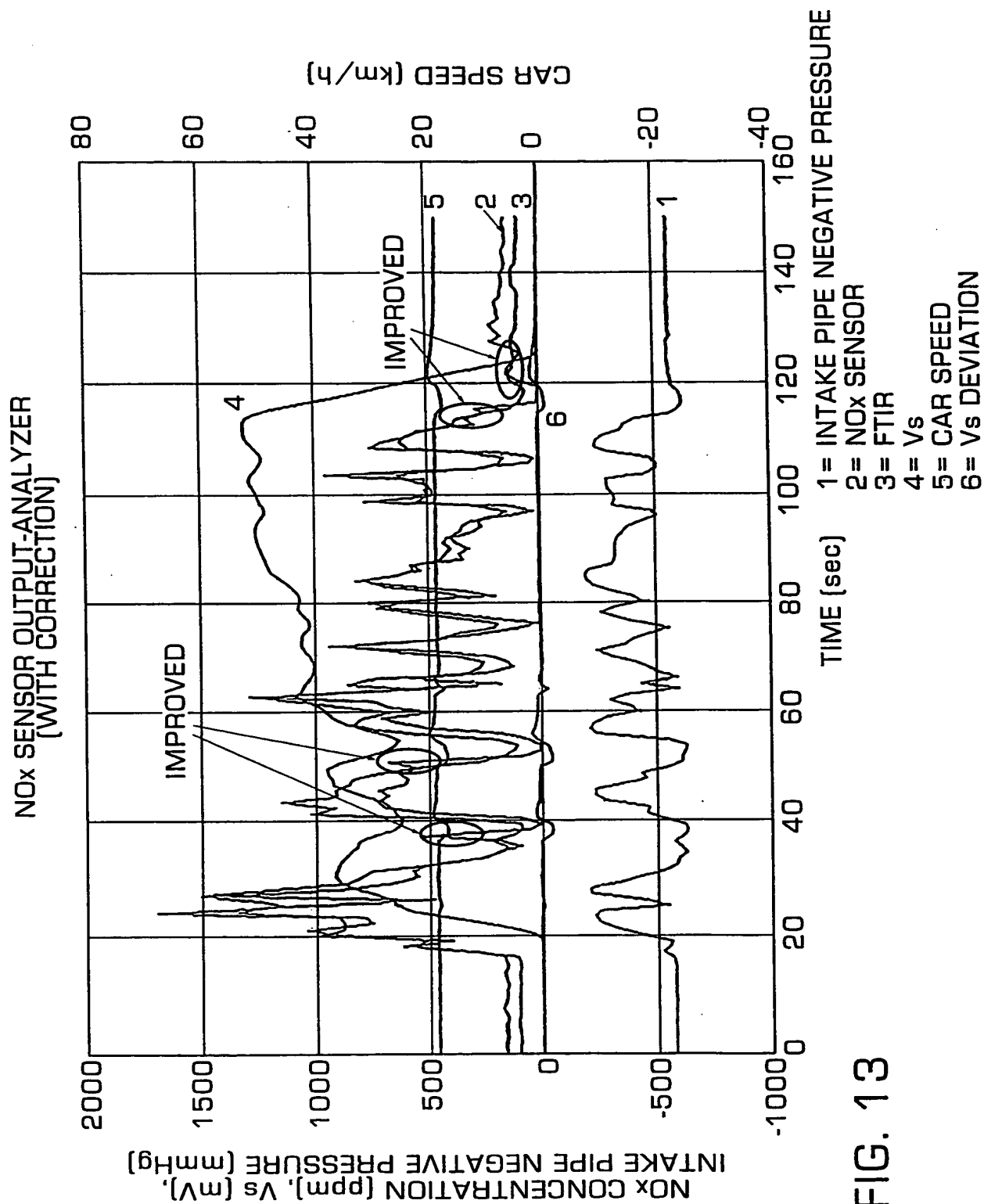


FIG. 13



FIG. 14

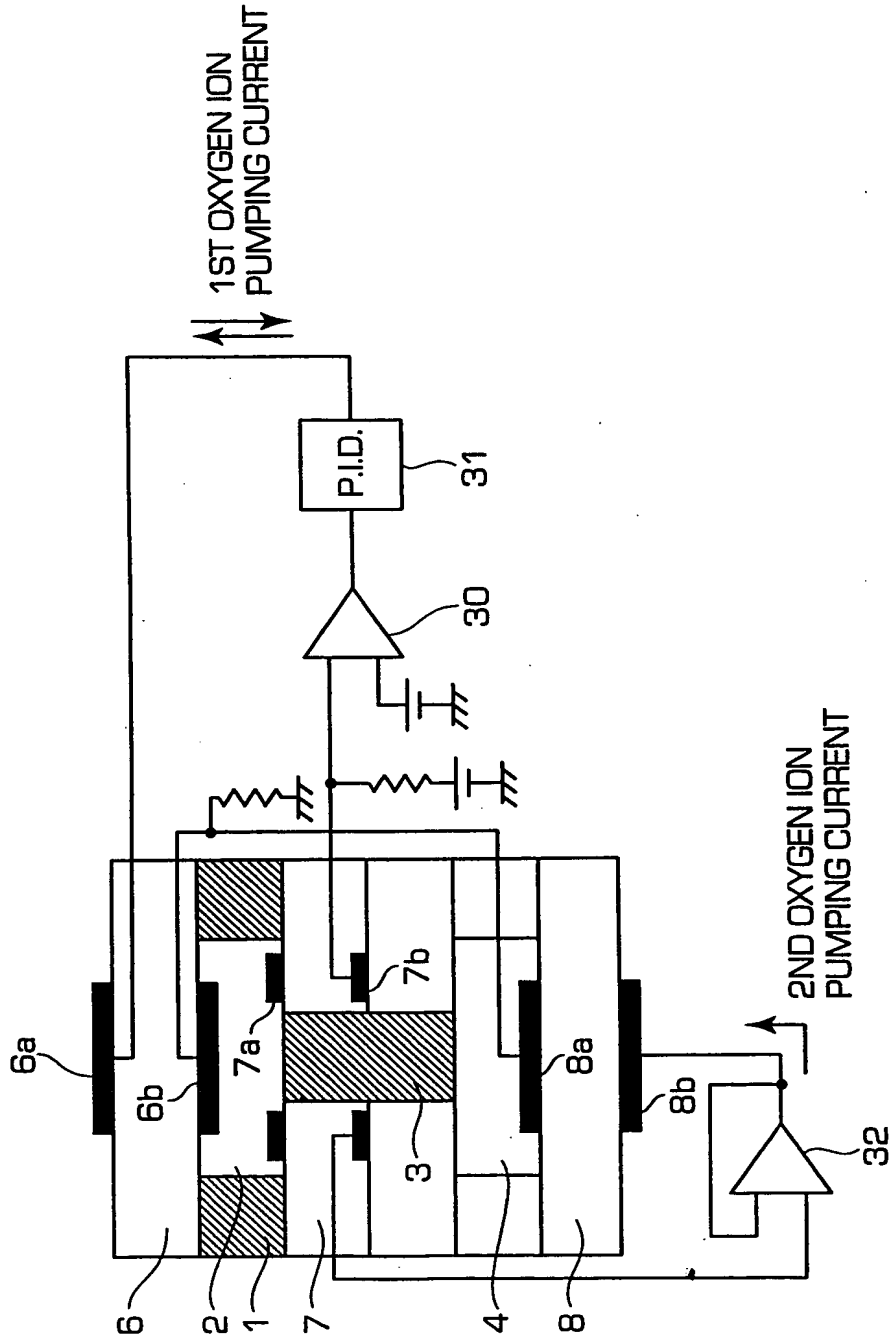




FIG. 15

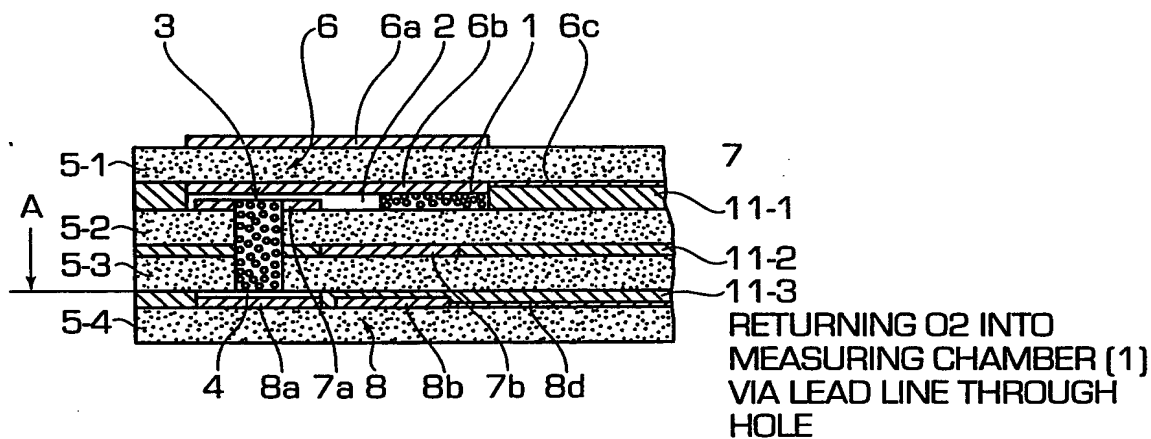
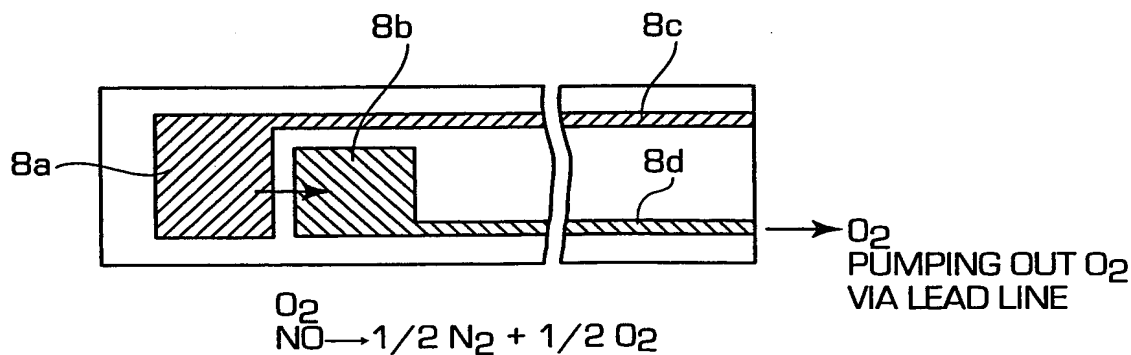


FIG. 16



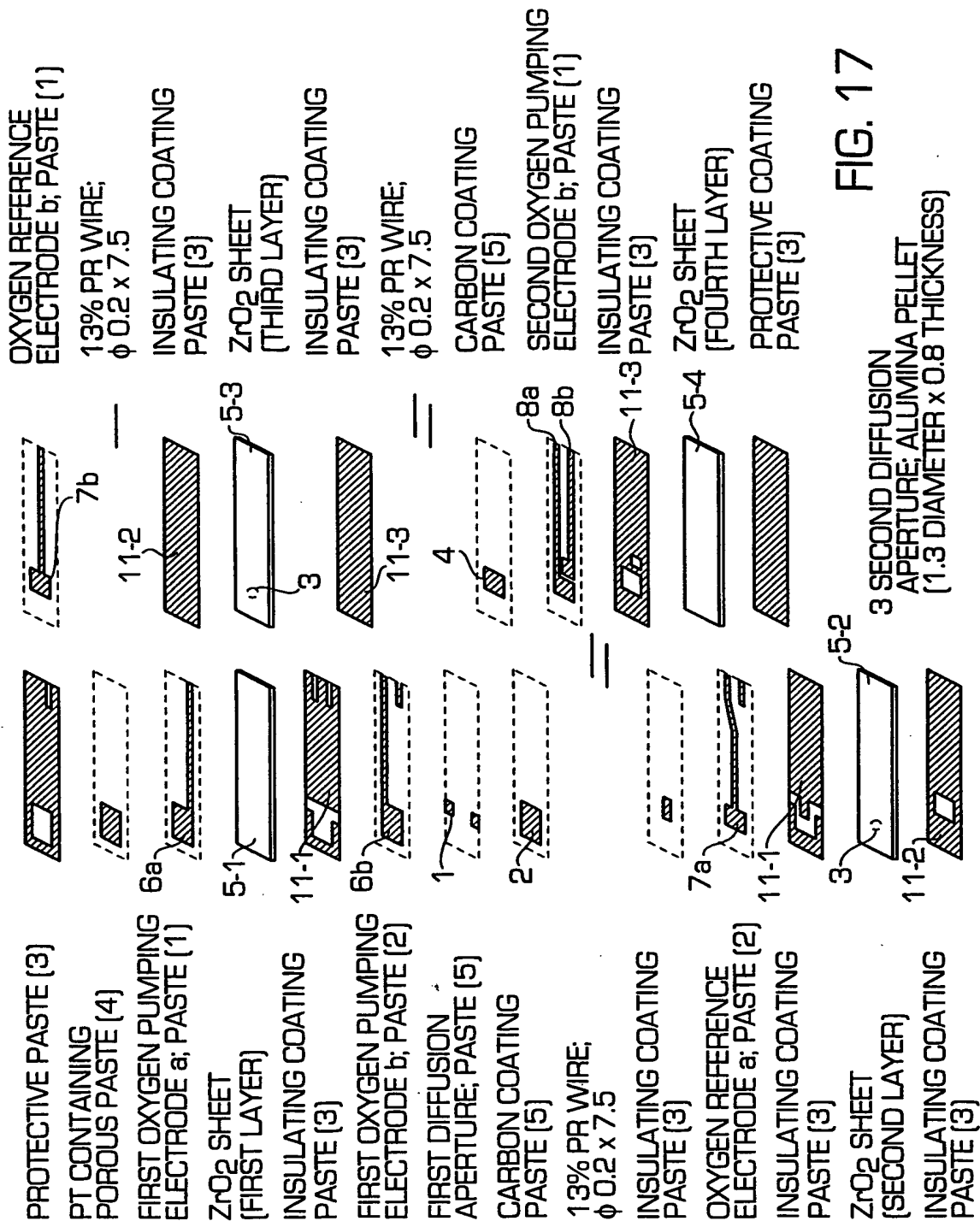
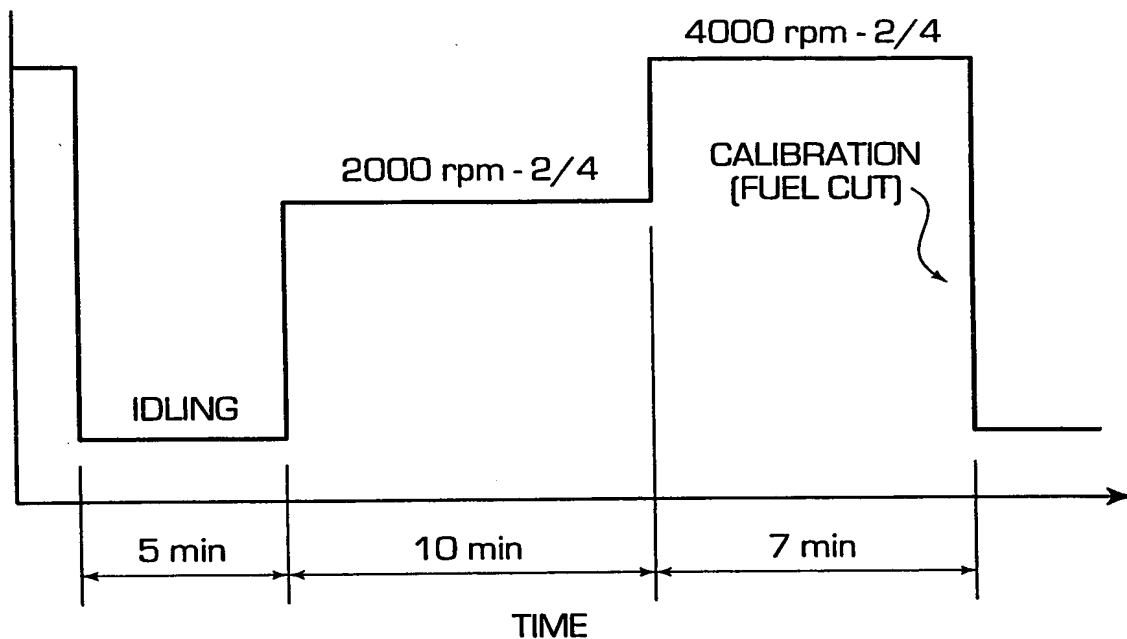


FIG. 17





**FIG. 18**  
DURABILITY TEST MODE



**FIG. 19**  
OFFSET CORRECTION MEANS

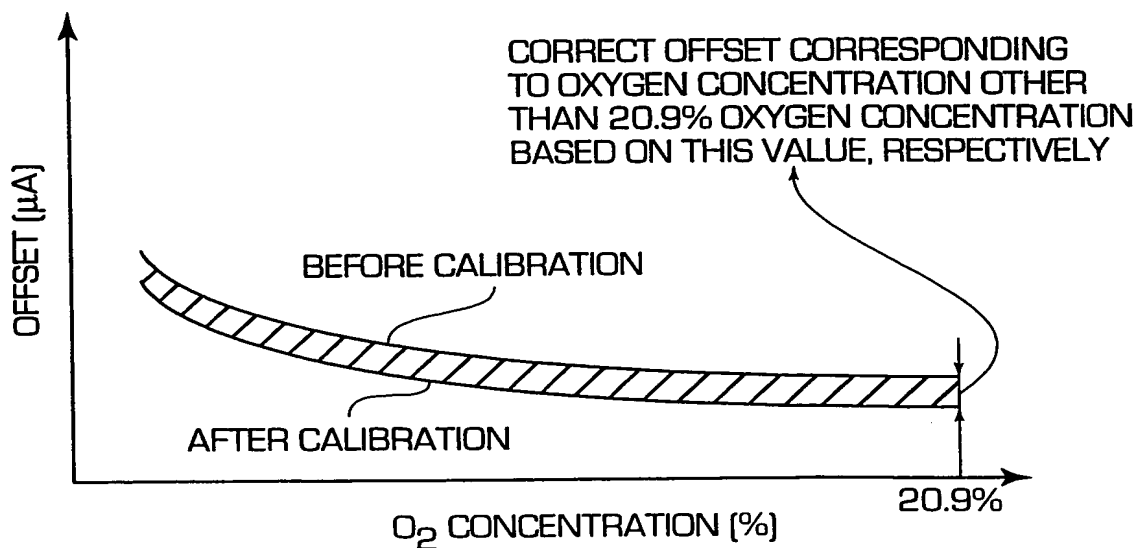




FIG. 20

DURABILITY TEST RESULT

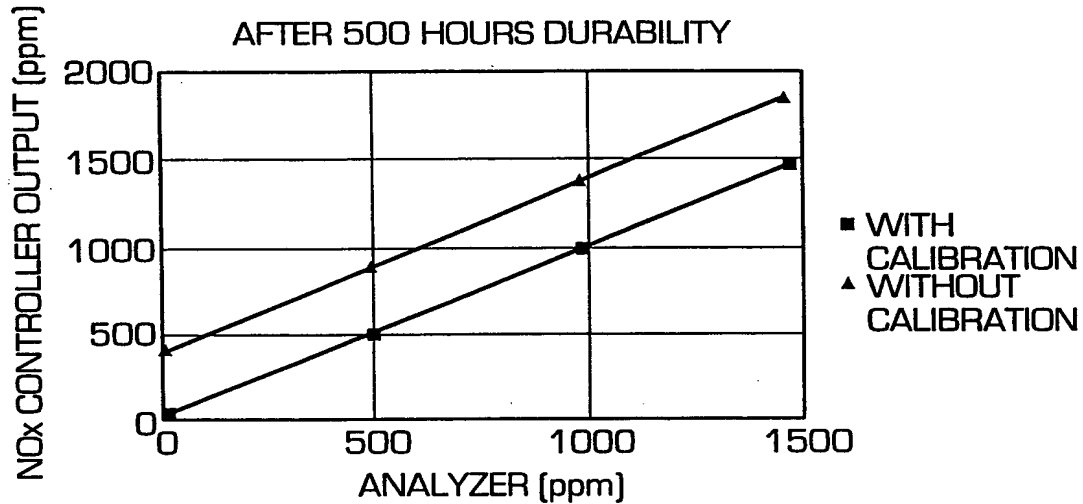




FIG. 21A

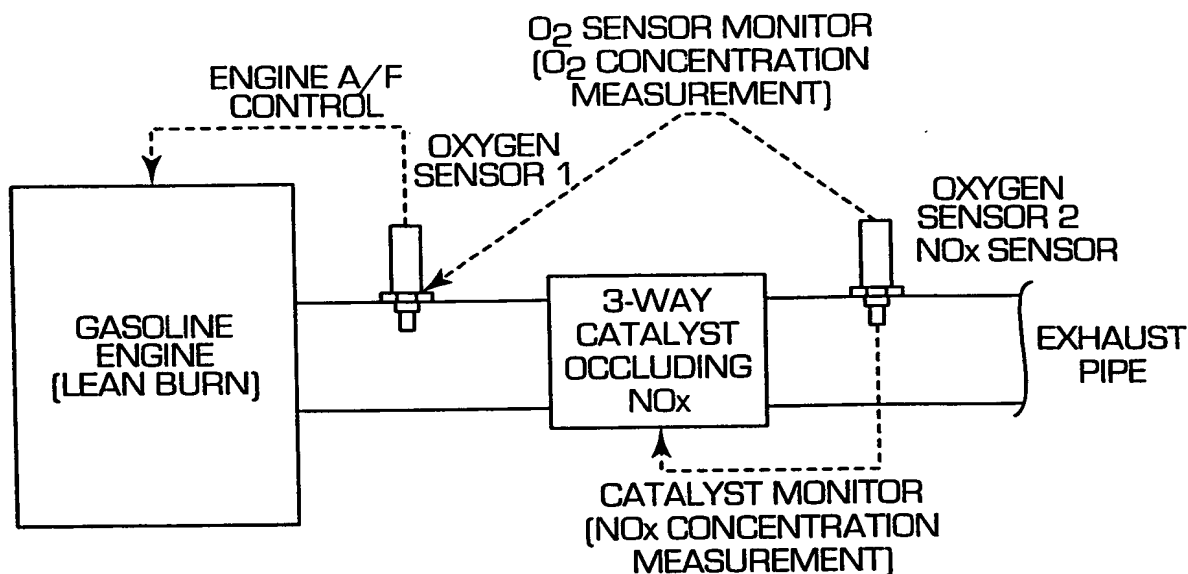


FIG. 21B

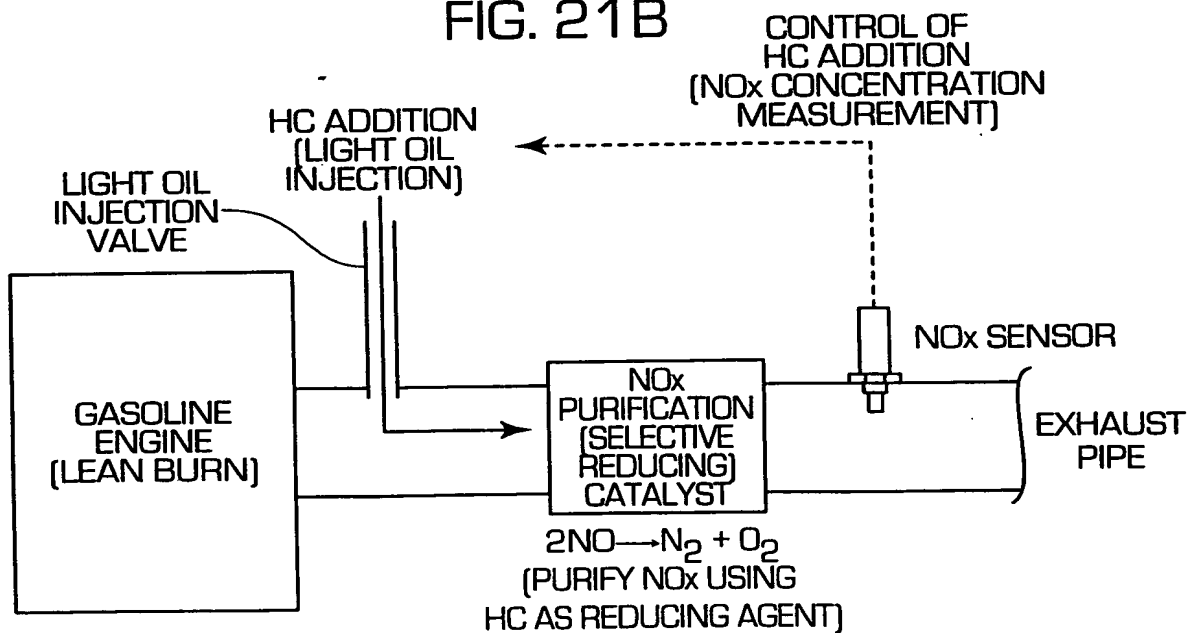




FIG. 22

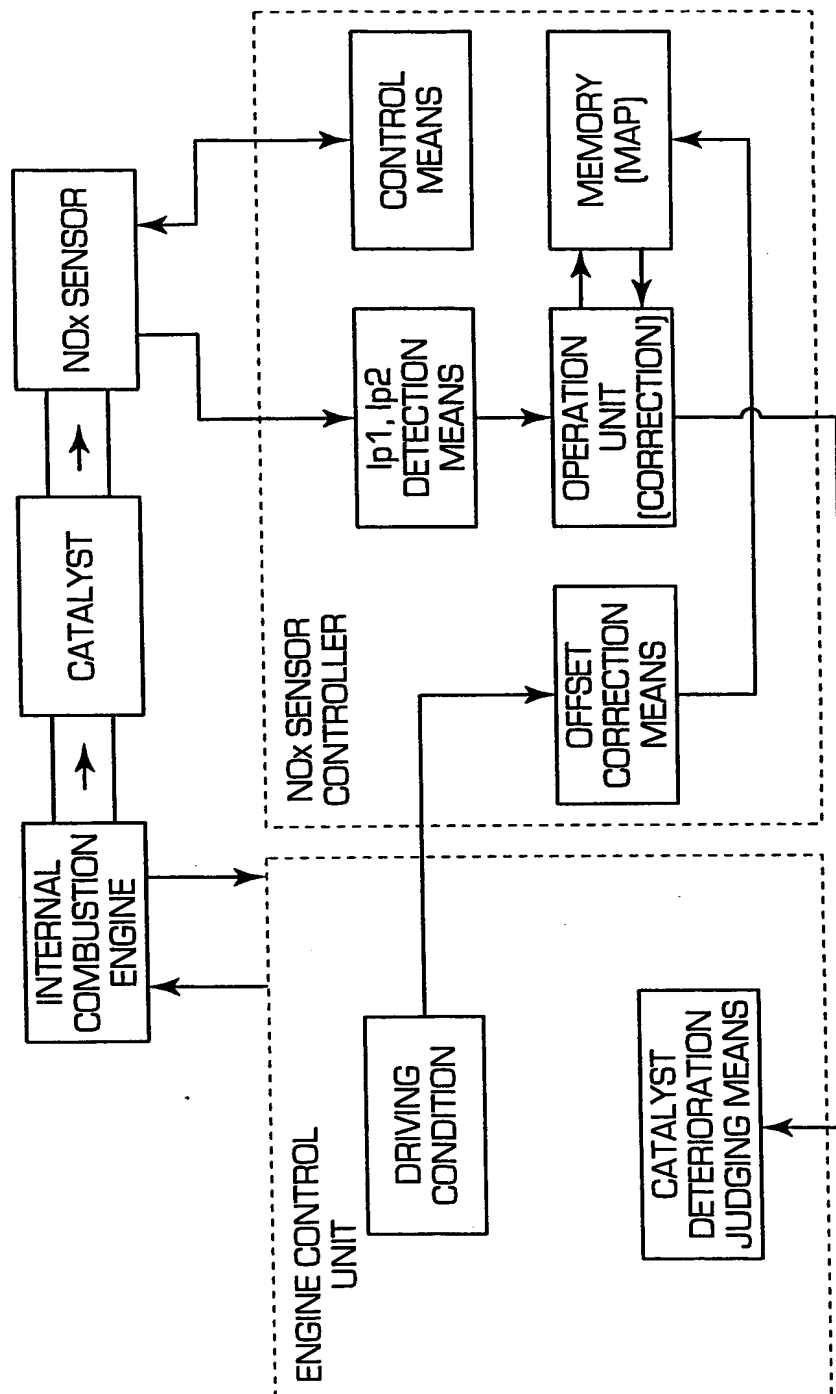




FIG. 23

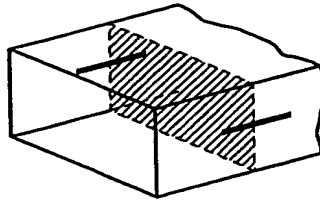
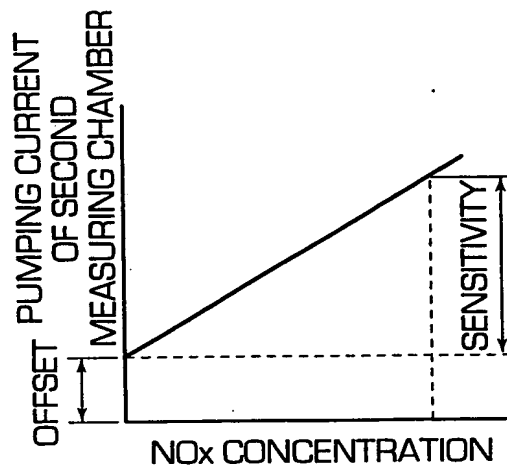


FIG. 24



2

3

1

7

7c

4

8

6a

6b

6

7a

7b

8a

8b

(A1)

(A2)

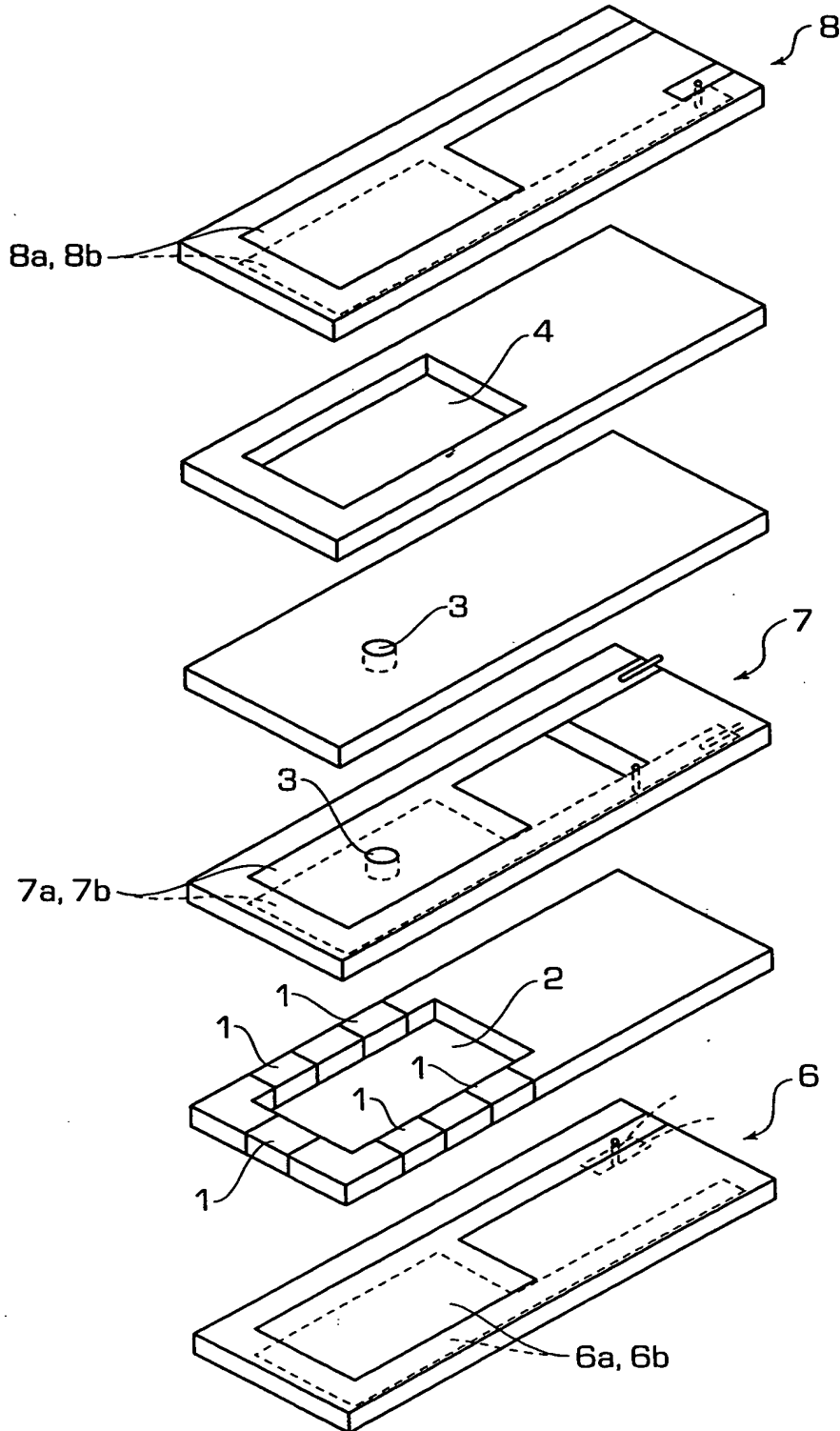
A1: PROPORTIONAL TO NO<sub>x</sub> AMOUNT

A2: PROPORTIONAL TO OXYGEN CONCENTRATION

ESTIMATE H<sub>2</sub>O AMOUNT



FIG. 27



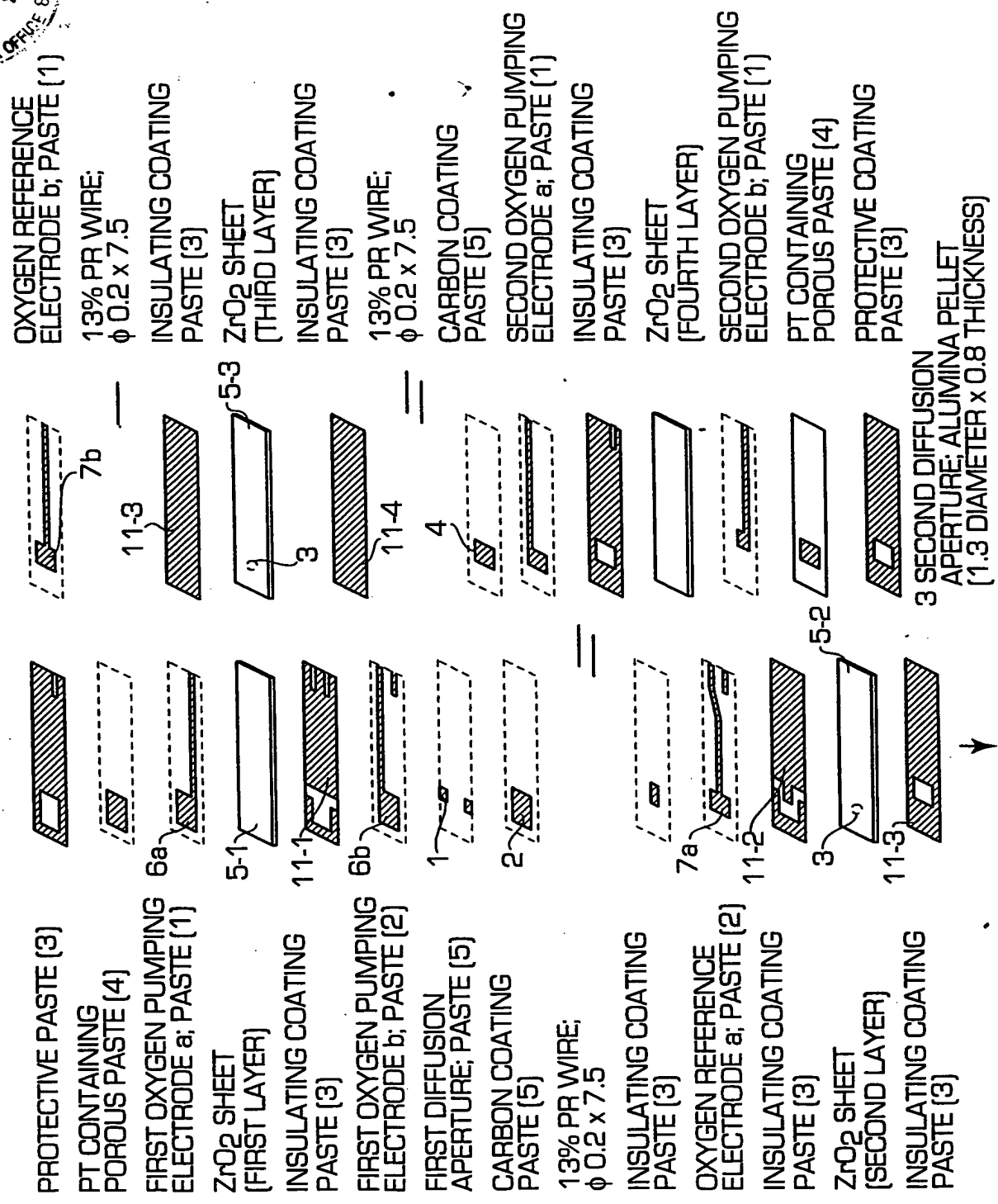


FIG. 28



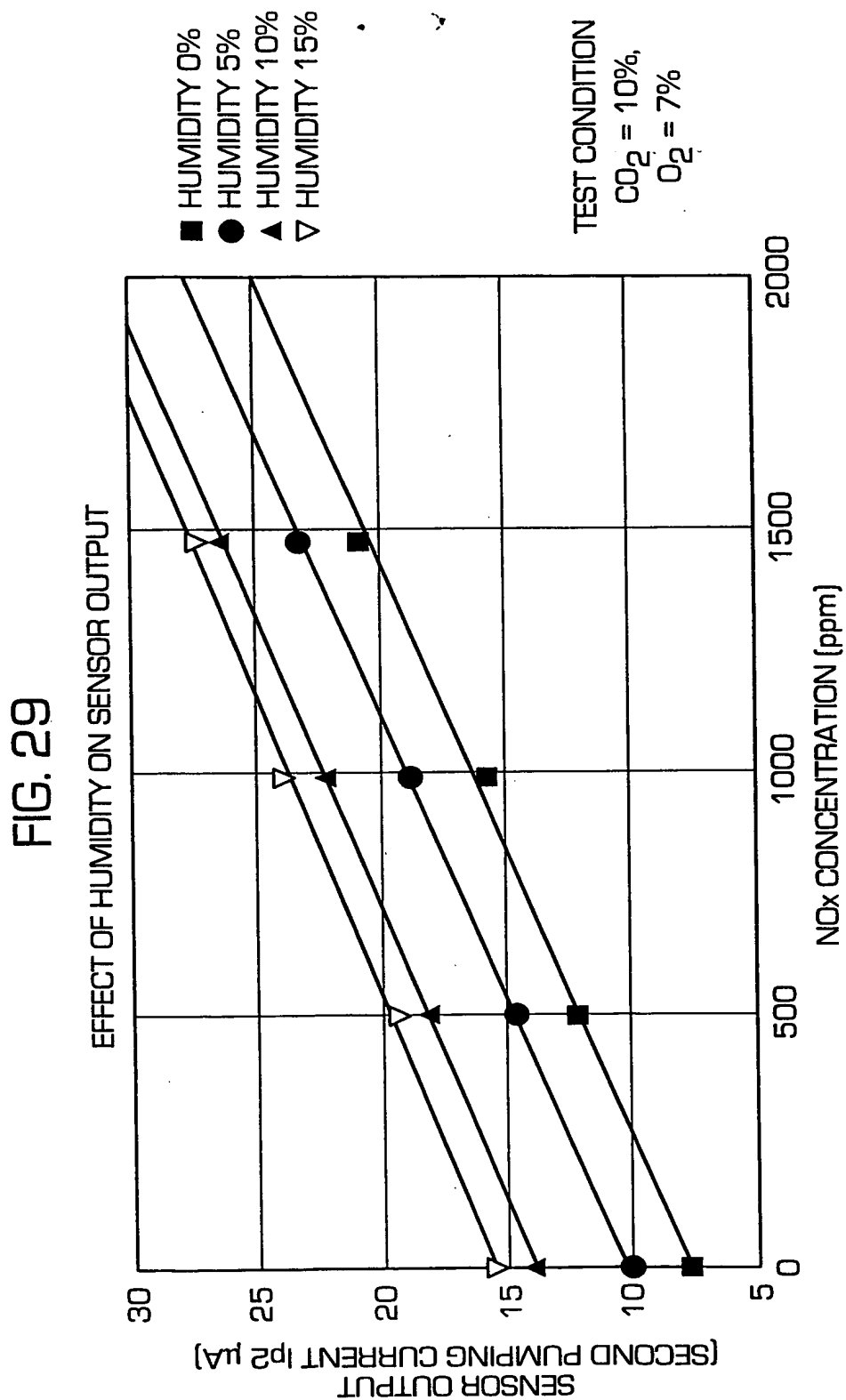




FIG. 30

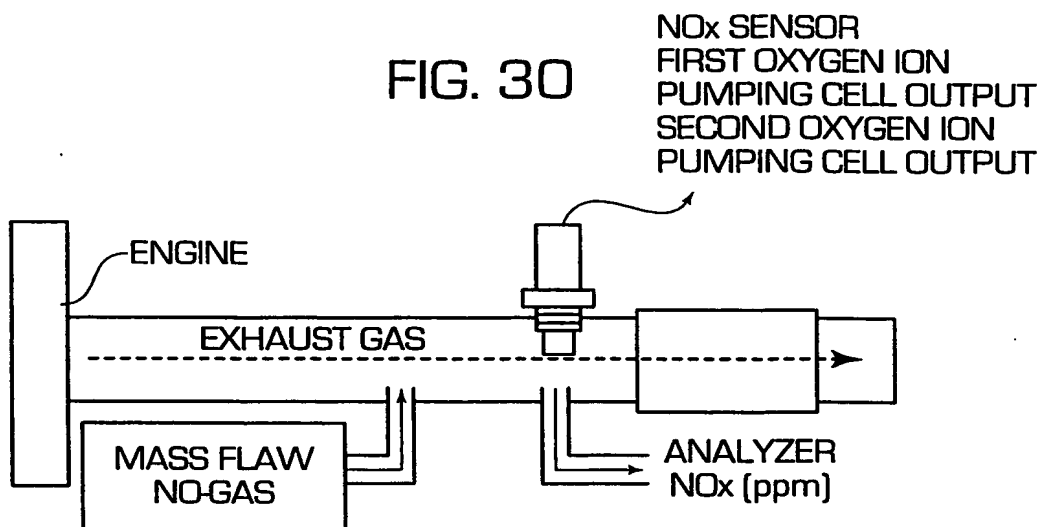


FIG. 31

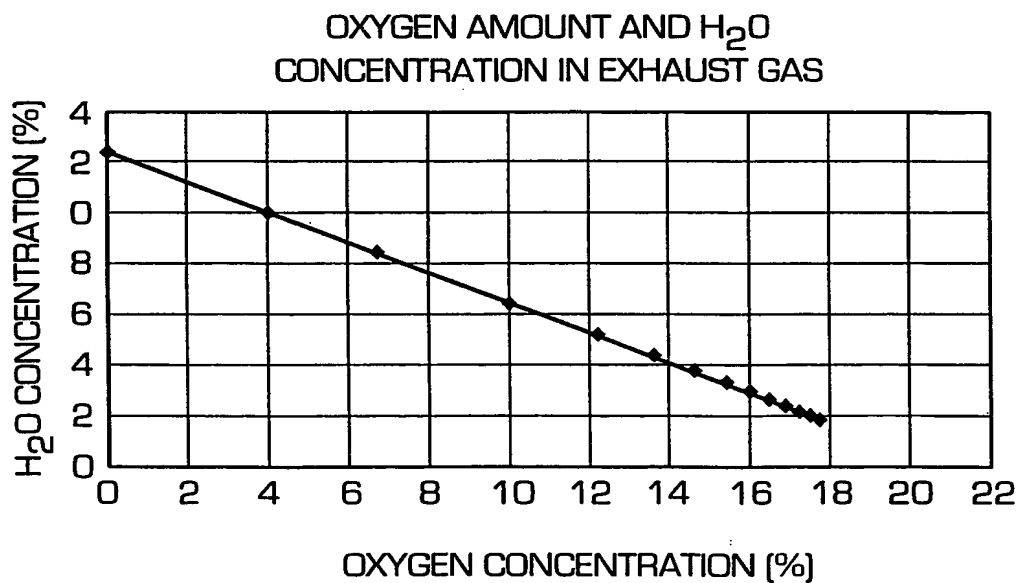




FIG. 32

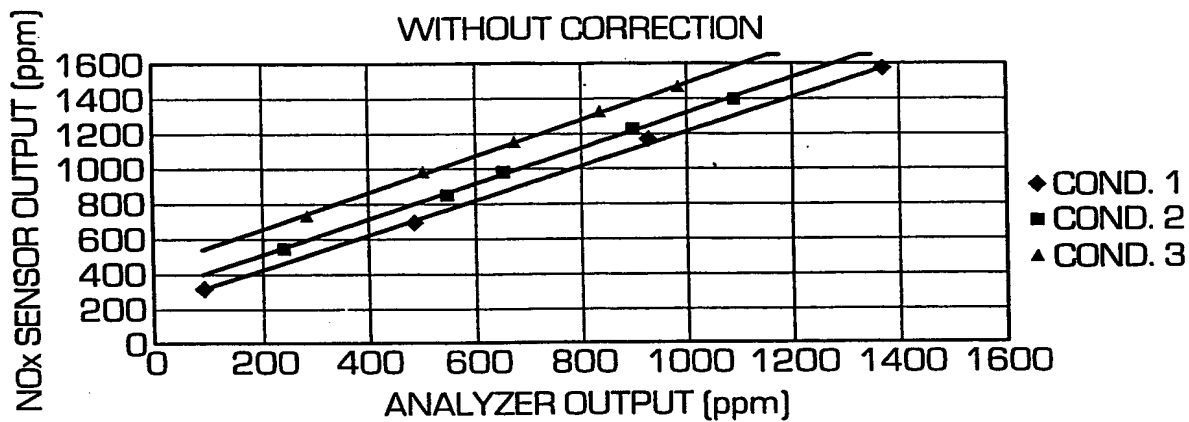


FIG. 33

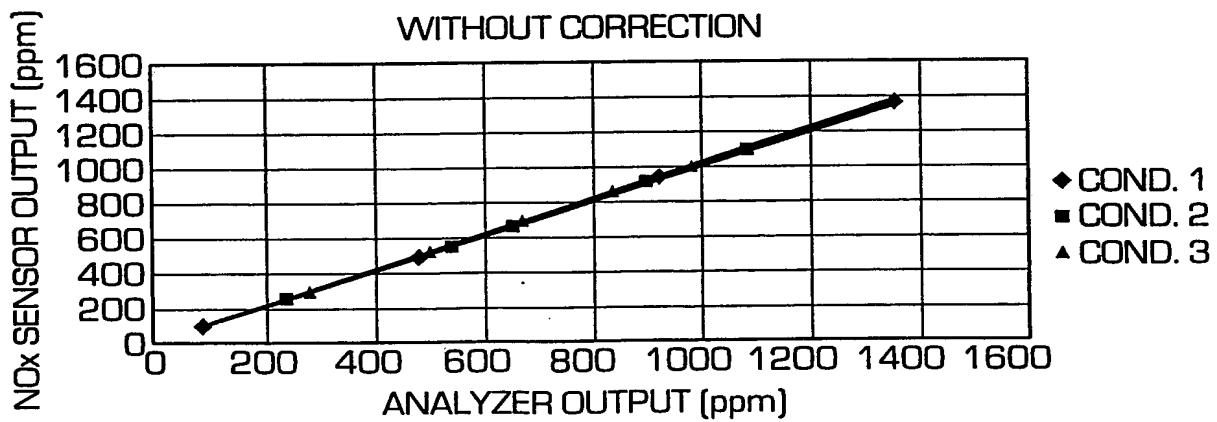




FIG. 34

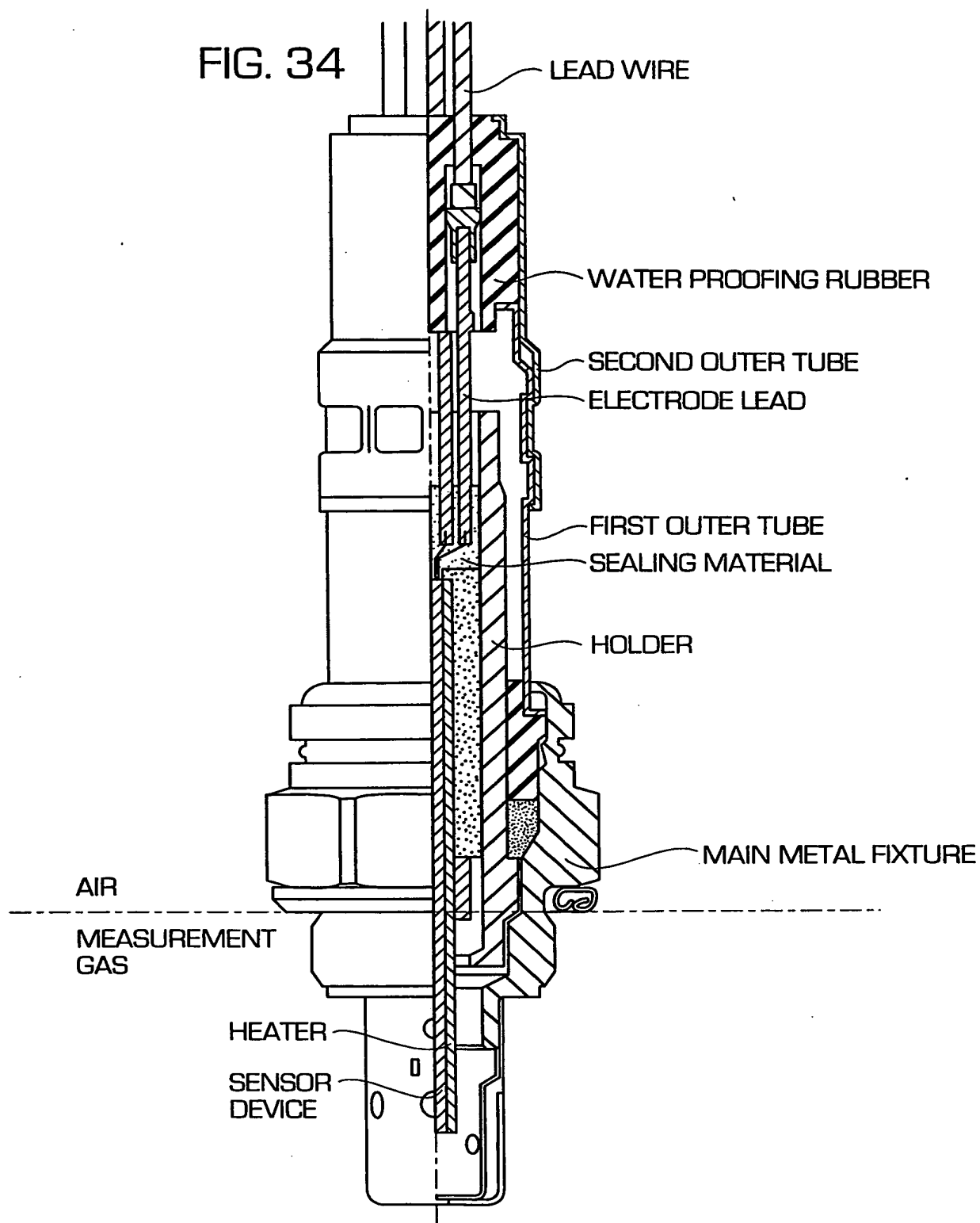




FIG. 35A

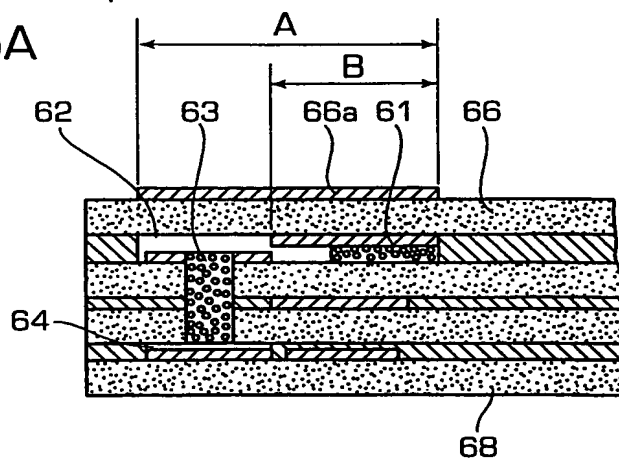


FIG. 35B

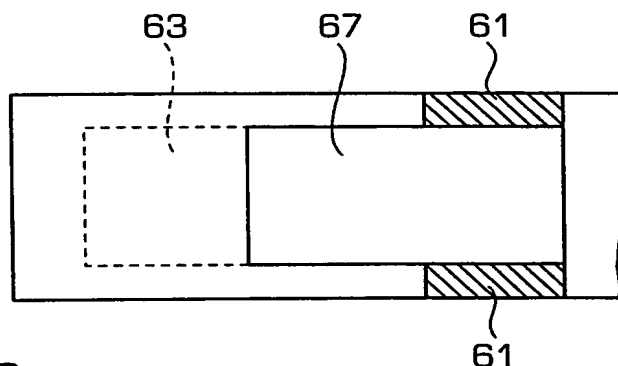


FIG. 35C

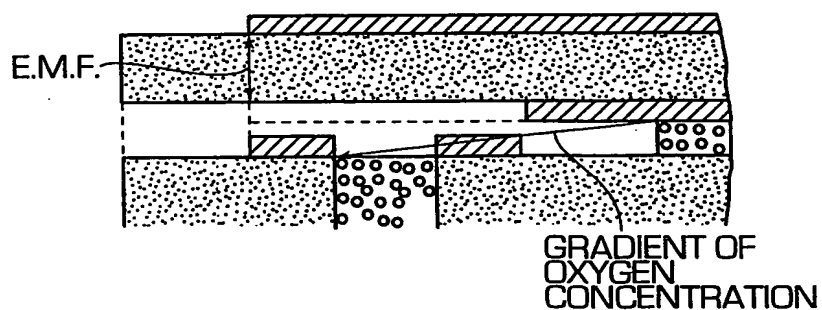


FIG. 35D

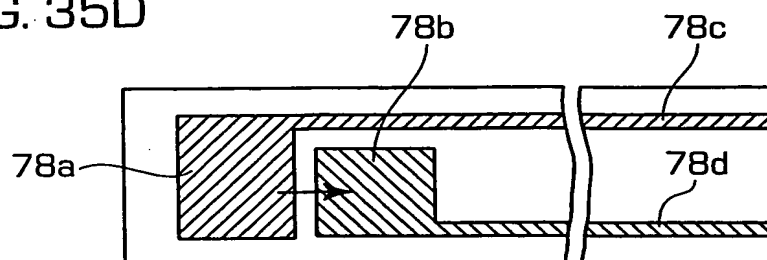




FIG. 36

